

Work Order ID 52742

October 13, 2009 2:29:56 PM

Page 1

Item ID: D206-667-203TRN

Accept

Revision ID: C

Item Name: Crosstube Turning Detail

Start Date: 14/10/2009 Start Qty: 1.00

Required Date: 30/10/2009 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan:

Date: 09-10-13

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D206-667-243	Rev C								

100

0.00



Mori Seiki

MORI SEIKI CNC LATHE LARGE

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio
FA089□2-Turn first side as per Folio FA089□3-File down transition lines
smooth.

0.1 09 - 10 - 220

110

0.00



QC

QC1- Inspect dimensions to dimension sheet

Memo

0.00

Quality Control

0.1 09 - 10 - 220

120

0.00



Mori Seiki

MORI SEIKI CNC LATHE LARGE

Memo

0.00

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA089□2-File down transition lines smooth.
□
3-Remove sand and plugs□4-Scrib part# and batch #

0.1 09 - 10 - 220

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October 13, 2009 2:29:56 PM



Page 2

Item ID: D206-667-203TRN

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Turning Detail

Start Date: 14/10/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 30/10/2009 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

QC1- Inspect dimensions to dimension sheet

0.00



QC

Memo

0.00

Quality Control

Ad 09 - 10 - 22 ①

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

1 0 - 140 7.10.26

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes

SAD

09-10-26



Work Order ID 52742

October 13, 2009 2:29:56 PM



Page 3

Item ID: D206-667-203TRN

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Turning Detail

Start Date: 14/10/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 30/10/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<u>A.M</u>	<u>09-10-26</u>	<u>26</u>	<u>2</u>
170 Packaging Packaging Packaging	Packaging Memo Identify and Stock in kanban rack <input type="checkbox"/> Location: <u>Crosstube</u> <u>09-10-26</u>	0.00 0.00				<u>0</u>			
180 QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00						<u>09-10-27</u>	<u>ME</u> <u>09-10-27</u>

Picklist Print

Page 1

October 13, 2009 2:30:03 PM

Work Order ID: 52742



Parent Item: D206-667-203TRNRevC



Parent Item Name: Crosstube Turning Detail

Start Date: 14/10/2009

Required Date: 30/10/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D6004-115RevA		Manufactured	No			100	Each	72.0000	1.0000			
---------------	--	--------------	----	--	--	-----	------	---------	--------	--	--	--

Crosstube Material



R.M. 09-10-22 ①

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

72

34685

17

34774

24

38336

31

Item	Qty	Part Number	Description
	-243		
1	X	D206-667-243	CROSSTUBE ASSEMBLY (206L HIGH AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 104.91±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-243" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 21.9 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

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WITHOUT NOTICE
WORK ORDER
NO. 52742

RELEASED
08/11/06

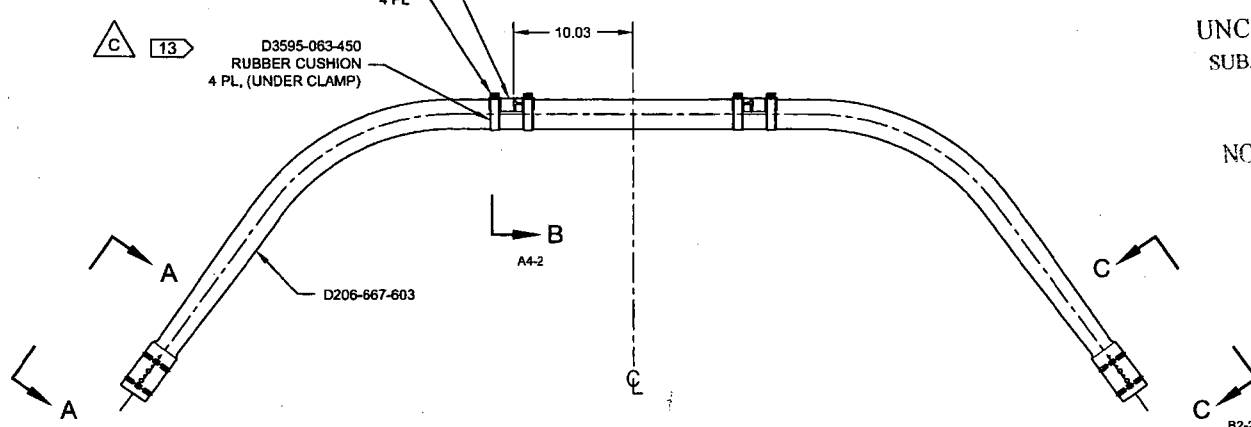
C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-450 WAS D2856-400-773 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN 4-3, C5-3, D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. C
CHECKED	RF	D206-667-243	SHEET 1 OF 4
MFG. APPR.	RF	TITLE	SCALE
APPROVED	RF	CROSSTUBE ASS'Y (206L HIGH AFT)	NTS
DE APPR.	RF	COPYRIGHT © 2000 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	08.11.06		

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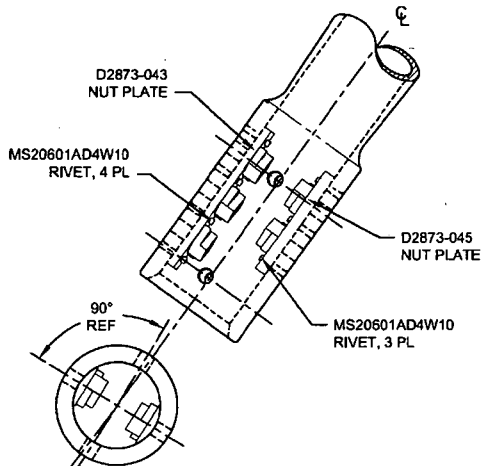
B/09-10-13

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04/11/13

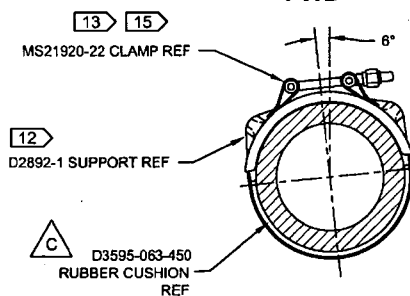
- 12 D2892-1 SUPPORT
2 PL
- 15 MS21920-22 CLAMP
4 PL
- 13 D3595-063-450
RUBBER CUSHION
4 PL, (UNDER CLAMP)



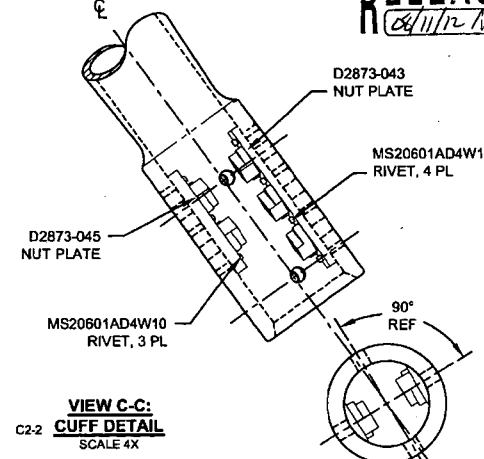
D206-667-243
ASSEMBLY DETAIL
(VIEW LOOKING FWD)



VIEW A-A:
CUFF DETAIL
SCALE 4X



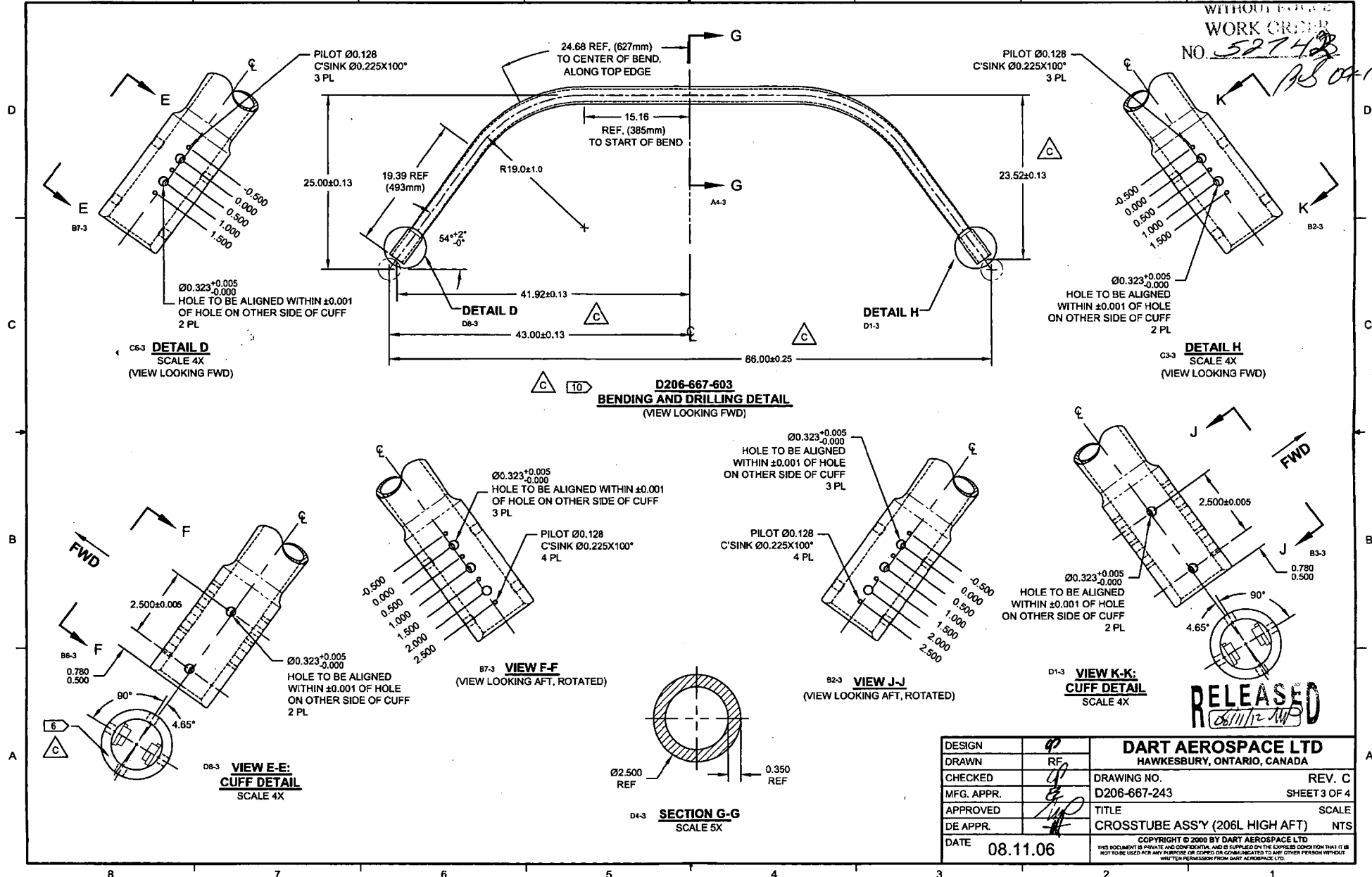
SECTION B-B
SCALE 5X



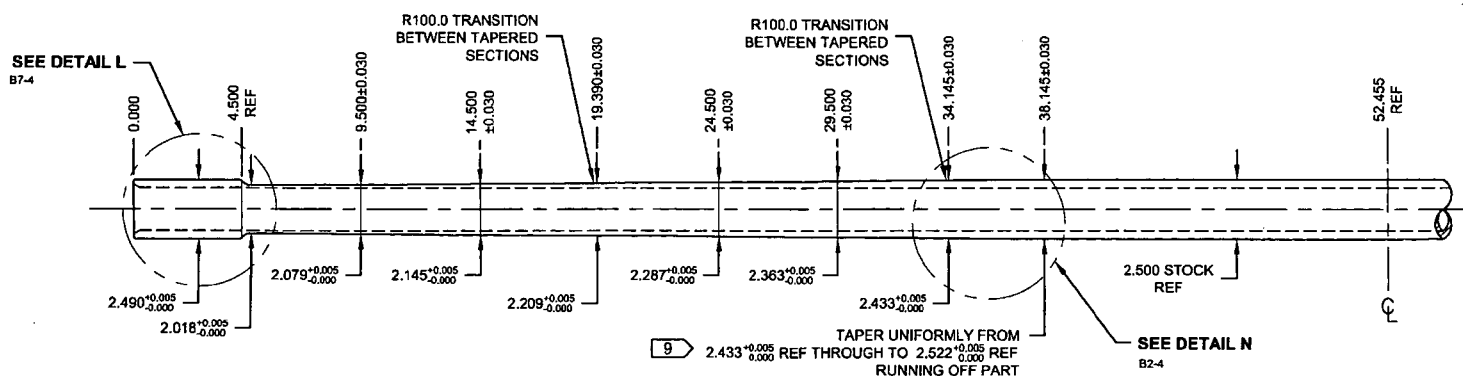
VIEW C-C:
CUFF DETAIL
SCALE 4X

DESIGN	97	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	97	DRAWING NO.	REV. C
MFG. APPR.	97	D206-667-243	SHEET 2 OF 4
APPROVED	97	TITLE	SCALE
DE APPR.	97	CROSSTUBE ASS'Y (206L HIGH AFT)	NTS
DATE	08.11.06	<small> COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. </small>	

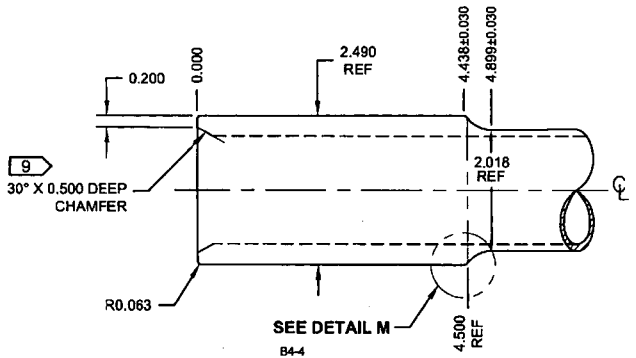
WITHOUT RETURN
WORK ORDER
NO. 527428
13 04-10-17



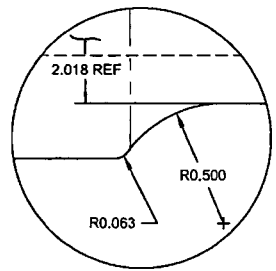
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NO. 52742
09-10-13



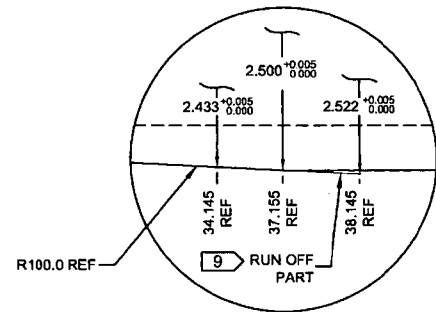
C TURNING DETAIL



C7-4 **DETAIL L: CROSSTUBE CUFF**
NOT TO SCALE



B6-4 **DETAIL M: CUFF TRANSITION**
NOT TO SCALE



C4-4 **DETAIL N: TAPER RUN-OFF**
NOT TO SCALE

RELEASED
08/11/12

DESIGN	4	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. C
CHECKED	4	D206-667-243	SHEET 4 OF 4
MFG. APPR.	4	TITLE	SCALE
APPROVED	4	CROSSTUBE ASS'Y (206L HIGH AFT)	NTS
DE APPR.	4	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	08.11.06		

DART AEROSPACE LTD	Work Order: 52742
Description: Crosstube Assembly	Part Number: D206-667-243
Inspection Dwg: D206-667-243 Rev: BC	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.490	+0.005/-0.000	2.492	✓			
	2.018	+0.005/-0.000	2.028	✓			
	2.079	+0.005/-0.000	2.084	✓			
	2.145	+0.005/-0.000	2.150	✓			
	2.209	+0.005/-0.000	2.214	✓			
	2.287	+0.005/-0.000	2.292	✓			
	2.363	+0.005/-0.000	2.368	✓			
	2.433	+0.005/-0.000	2.438	✓			
	0.200	+/-0.010	0.200	✓			
	0.500 x 30°	+/-0.010	0.500x30°	✓			
	R0.063	+/-0.010	R0.063	✓			
	R0.500	+/-0.010	R0.500	✓			
	4.438	+/-0.030	4.438	✓			
SIDE B	104.91	+/-0.020	104.910	✓			
	2.490	+0.005/-0.000	2.490	✓			
	2.018	+0.005/-0.000	2.023	✓			
	2.079	+0.005/-0.000	2.084	✓			
	2.145	+0.005/-0.000	2.150	✓			
	2.209	+0.005/-0.000	2.214	✓			
	2.287	+0.005/-0.000	2.292	✓			
	2.363	+0.005/-0.000	2.368	✓			
	2.433	+0.005/-0.000	2.438	✓			
	0.200	+/-0.010	0.200	✓			
	0.500 x 30°	+/-0.010	0.500x30°	✓			
	R0.063	+/-0.010	R0.063	✓			
	R0.500	+/-0.010	R0.500	✓			
	4.438	+/-0.030	4.438	✓			

Measured by: G.M.	Audited by: JLM	Prototype Approval: N/A
Date: 09.10.22	Date: 9.10.26	Date: N/A

Rev	Date	Change	Revised by	Approved
A	06.09.01	New Issue (P/O D206-667-203)	KJ/JLM	